Journal of

POLYMER SCIENCE

VOLUME XVI • 1955

Editorial Board:

W. T. ASTBURY • P. M. DOTY • R. M. FUOSS • J. J. HERMANS • H. MARK

Advisory Board:

T. ALFREY, JR. *Midland, Mich.*
W. O. BAKER *New York, N. Y.*
P. D. BARTLETT *Cambridge, Mass.*
C. W. BUNN *Welwyn Garden City*
S. CLAESSON *Uppsala*
P. DEBYE *Ithaca, N. Y.*
V. DESREUX *Liége*
P. J. FLORY *Ithaca, N. Y.*
K. FREUDENBERG *Heidelberg*
G. GEE *Welwyn Garden City*
P. H. HERMANS *Utrecht*
R. HOUWINK *Delft*
M. L. HUGGINS *Rochester, N. Y.*
I. M. KOLTHOFF *Minneapolis, Minn.*
O. KRATKY *Graz*
W. KUHN *Basel*
M. MAGAT *Paris*
C. S. MARVEL *Urbana, Ill.*
H. W. MELVILLE *Birmingham*
G. NATTA *Milan*
C. C. PRICE *Notre Dame, Ind.*
E. K. RIDEAL *London*
CH. SADRON *Strasbourg*
G. V. SCHULZ *Mainz*
R. SIGNER *Berne*
G. SMETS *Louvain*
H. M. SPURLIN *Wilmington, Del.*
W. H. STOCKMAYER *Cambridge, Mass.*
A. V. TOBOLSKY *Princeton, N. J.*
C. WALLING *New York, N. Y.*
G. S. WHITBY *Akron, Ohio*
B. H. ZIMM *Schenectady, N. Y.*

INTERSCIENCE PUBLISHERS, INC.

Copyright, 1955, by Interscience Publishers, Inc.

CONTENTS

Vol. XVI, Issue Nos. 81–82, 1955

Journal of Polymer Science

Issue No. 81, March

WITNAUER, L. P., SENTI, F. R., and STERN, M.D.: Light Scattering Investigation of Potato Amylopectin 1

CHENG, P. Y., and SCHACHMAN, H. K.: Studies on the Validity of the Einstein Viscosity Law and Stokes' Law of Sedimentation 19

BURNETT, G. M., GEORGE, M. H., and MELVILLE, H. W.: Polymerization of Vinyl Acetate at Low Temperatures 31

SCHAUENSTEIN, E., and BAYZER, H.: Über die Quantitative Berücksichtigung der Tyndall-Absorption im UV-Absorptionsspektrum von Proteinen 45

UEBERREITER, KURT, KANIG, GERHARD, and BRENNER, ALEXANDER, S.: Kinetics of Crystallization of Some Fractions of Polyethylene Succinate 53

SCHOON, TH. G. F., and BIE, G. J. VAN DER: Particle Size Distribution in Brominated Hevea Latices 63

STANNET, V., and SZWARC, M.: The Permeability of Polymer Films to Gases—a Simple Relationship (Letter to the Editors) 89

ISEMURA, TOSHIZO, and KIMURA, YUZO: Dissolution of Polyvinylformal and Polyvinylbutyral in Surfactant Solution (Letter to the Editors) 92

RICE, STUART A.: Particle Scattering Factors in Polydisperse Systems (Letter to the Editors) 94

Issue No. 82, April

HERMAN MARK: Dedication 99

WINSLOW, F. H., BAKER, W. O., PAPE, N. R., and MATREYEK, W.: Formation and Properties of Polymer Carbon 101

HOUWINK, R., and ALPHEN, J. VAN: Reinforcing Effect of Condensation Polymers on Rubber in Connection with Their Particle Size 121

BRYANT, W. M. D., PIERCE, JR., R. H. H., LINDEGREN, C. R., and ROBERTS, R.: Nucleation and Growth of Crystallites in High Polymers. Formation of Spherulites 131

NATTA, G.: Une Nouvelle Classe de Polymères d'α-Olefines ayant une Régularité de Structure Exceptionnelle 143

FREUDENBERG, KARL: Contributions to the Chemistry of High Molecular Natural Substances 155

KRATKY, O., POROD, G., SEKORA, A., and PALETTA, B.: Determination of the Shape of Gamma-Globulin by Means of the X-Ray Low-Angle Method 163

CRAGG, L. H., and BIGELOW, C. C.: The Viscosity Slope Constant k'—Ternary Systems: Polymer–Polymer–Solvent 177

CLAESSON, STIG: Calculation of Molecular Weight Distribution Functions from Turbidimetric Titrations and Similar Data..... 193
DEARBORN, ELIZABETH C., FUOSS, RAYMOND M., and WHITE, ALICE F.: Acid Acceleration of Epoxide Condensations..... 201
HUGGINS, MAURICE L.: The Thermodynamic Properties of Solutions..... 209
KATCHALSKY, A., and ZWICK, M.: Mechanochemistry and Ion Exchange..... 221
OSTER, GERALD: Dye Binding to High Polymers..... 235
ZIMM, BRUNO H.: The Gaussian Approximation for a Chain with Fixed Valence Angles..... 245
MARVEL, C. S., and GALUN, ARJEH B.: Some Copolymerizations of *cis*- and *trans*-Dibenzoylethylene..... 251
LEADERMAN, HERBERT: Nonlinear Viscoelastic Behavior of Rubber in Shear..... 261
MORAWETZ, H., and WESTHEAD, JR., E. W.: Acid-Base Catalysis in Polyelectrolyte Solutions..... 273
OVERBERGER, C. G., and ENDRES, GERARD F.: Ionic Polymerization. VI. The Mechanism of Molecular Termination by Aromatic Compounds in the Cationic Polymerization of Styrene..... 283
KAGAWA, IKUMI, and NAGASAWA, MITSURU: Statistical Thermodynamics of Polyelectrolyte Solutions. I. Activity Coefficient of Counter Ion in Salt-Free System..... 299
TOBOLSKY, A. V., and OFFENBACH, J.: Kinetic Constants for Styrene Polymerization..... 311
WALLING, CHEVES: Complex Formation and Reversibility in Copolymerization..... 315
BUNN, C. W.: The Melting Points of Chain Polymers..... 323
METZ, DONALD J., and MESROBIAN, ROBERT B.: Preparation of Graft Copolymers from Autoxidized Polystyrene Derivatives.... 345
TERAYAMA, HIROSHI, and WALL, F. T.: Reduced Viscosities of Polyelectrolytes in the Presence of Added Salts..... 357
SZWARC, M.: Reactions of Methyl Radicals and Their Applications to Polymer Chemistry..... 367
GOUINLOCK, JR., E. V., FLORY, P. J., and SCHERAGA, H. A.: Molecular Configuration of Gelatin..... 383
MISHUCK, E., and EIRICH, F. R.: Surface Films of Synthetic Polypeptides..... 397
KOOY, J., and HERMANS, J. J.: Precision Viscometry of Polymer Solutions..... 417
TEYSSIÉ, PH., WILDE, M. C. DE, and SMETS, G.: Ionic Chlorination of Polystyrene..... 429
HERMANS, P. H., HEIKENS, D., and VELDEN, P. F. VAN: A Direct Analytical Test of the Flory-Schulz Distribution in Nylon 6 Type Equilibrium Polymers. Preliminary Communication..... 451
FAIRBROTHER, FRED, GEE, GEOFFREY, and MERRALL, G. T.: The Polymerization of Sulfur..... 459
MEEHAN, E. J., KOLTHOFF, I. M., and SINHA, P. R.: Apparent Transfer Constants of Mercaptans in Emulsion Polymerization. I. Role of Diffusion and Distribution Coefficients..... 471
DAUNE, M., BENOIT, H., et SADRON, CH.: Etude de la Polydispersité par Diffusion Brownienne..... 483
MAGAT, MICHEL: Contribution à la Cinétique de Polymérisation dans les Milieux Précipitants..... 491

MELVILLE, H. W., and STEAD, B. D.: Turbidimetric Titration of Block Polymer Solutions 505
STOCKMAYER, W. H., MOORE, JR., L. D., FIXMAN, M., and EPSTEIN, B. N.: Copolymers in Dilute Solution. I. Preliminary Results for Styrene-Methyl Methacrylate 517
RIDEAL, SIR ERIC: On Macromolecules at Interfaces 531
KUHN, W., PETERLI, E., and MAJER, H.: Freezing Point Depression of Gels Produced by High Polymer Network 539
WHITBY, G. S., GROSS, M. D., MILLER, J. R., and COSTANZA, A. J.: Emulsifier-Free Polymerization in Aqueous Media 549
PRICE, CHARLES C., and SCHWAN, THEODORE C.: Copolymerization Characteristics of Ethyl Vinyl Ether and Its Beta-Bromo and Beta-Carbethoxy Derivatives 577
EDWARDS, GERALD A., and GOLDFINGER, GEORGE: Polyphenyl 589
AUTHOR INDEX, Volume XVI 599
SUBJECT INDEX, Volume XVI 601